Patent claims:

1. An immunogenic protein DV 17 having a protective effect, which protein is isolated from adult worms of the lungworm Dictyocaulus viviparus.

2. The protein as claimed in claim 1, which said protein has a molecular weight of 15,000 - 18,000 daltons, an isoelectric point between 5.3 and 5.9 and amino acid part sequences as depicted in Table 1.

3. The protein as claimed in one of claims 1 to 2, which said protein has a molecular weight of 16,500 ± 1500 daltons and an isoelectric point of 5.6.

4. A protein which comprises the amino acid sequence depicted in Table 6 (SEQ ID NO.: 30) or parts thereof.

5. A process for isolating a protein as claimed in one of claims 1 to 4, which comprises using extraction methods and chromatographic methods to carry out the isolation.

6. A DNA which encodes a protein as claimed in one of claims 1 to 4.

7. A DNA as claimed in claim 6, which comprises at least one DNA sequence depicted in Table 1.

8. A DNA as claimed in claim 6, which

(a) comprises a DNA sequence depicted in Table 6 (SEQ ID NO.: 29) or parts thereof, or

(b) hybridizes, under stringent conditions, with a DNA sequence according to (a).

9. A process for isolating a DNA as claimed in claim 6, 7 or 8, which comprises

a) preparing degenerate oligonucleotides which comprise a DNA sequence depicted in Table 1, or parts thereof,

b) labeling the oligonucleotides which have been prepared radioactively or non-radioactively, and

c) isolating cDNA clones from a cDNA library prepared from Dictyocaulus viviparus, which cDNA clones hybridize, under stringent conditions, with the hybridization probes which have been prepared in accordance with b).

10. A process for isolating a DNA as claimed in claim 7 or 8, which comprises

a) preparing PCR primers which comprise a DNA sequence depicted in Table 1, or parts thereof, or which comprise an oligo-dT sequence,

b) using the resulting PCR primers to generate PCR fragments from a cDNA library prepared from Dictyocaulus viviparus,

c) cloning and analyzing these fragments in accordance with current methods, and

d) using the PCR fragment obtained in accordance with item b) in place of the degenerate oligonucleotides to complete the cDNA sequence by means of hybridization methods as claimed in claim 8.

11. The process as claimed in claim 10, wherein RNA is used as the template for the PCR reaction, with this RNA being initially reverse-transcribed in an additional step and the resulting first strand being used for the PCR.

12. A protein, which can be obtained by expressing a cDNA obtained as claimed in one of claims 9 to 11 in prokaryotes or eukaryotes and then purifying the expressed protein.

13. An immunochemical process for determining the quantity of DV 17-specific antibodies in the blood of cattle using a protein as claimed in one of claims 1 to 4 or 12, which comprises incubating DV 17-coated ELISA plates with the bovine serum to be investigated and detecting any DV 17/antibody complexes formed with peroxidase-conjugated, polyclonal antibodies and a color reaction.

14. The use of a protein as claimed in one or more of claims 1 to 4 or 12 as a vaccine, in association with a carrier or adjuvant and, where appropriate, auxiliary substances, for immunizing cattle against dictyocaulosis.

15. A diagnostic kit which comprises a protein as claimed in one of claims 1-4 or 12.

16. A vaccine which comprises a protein as claimed in one of claims 1-4 or 12 and also a carrier, an adjuvant and also, where appropriate, auxiliary substances.